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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,172	08/17/2001	Gerard Delahay	58779.000018	1446

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EXAMINER

STRICKLAND, JONAS N

ART UNIT PAPER NUMBER

1754

DATE MAILED: 08/25/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/931,172

Applicant(s)

DELAHAY ET AL.

Examiner

Jonas N. Strickland

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 6/5/03 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. The Examiner has not received a copy of the non-patent literature documents by Higgins and Meier et al. It is suggested that Applicant make copies of these two references available to the Examiner.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 3-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Speronello et al. (US Patent 5,516,497).

Speronello et al. discloses a zeolite catalyst having an iron or copper promoter loading which is useful for reducing nitrogen oxides. Speronello et al. provides for introducing ammonia into a gas stream from about 0.7 to 2 moles of ammonia per mole of nitrogen oxides. The reaction is carried out at a temperature of from 200°C to 600°C (col. 3, lines 36-41). The gas is comprised of nitrogen oxides, oxygen, as well as water

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(col. 12, lines 56-63). Speronello et al. continues to teach wherein the iron beta-zeolite may also comprise a binder (col. 7, lines 60-62). The Si/Al ratio is significantly less than 30 (col. 7, lines 1-3). The catalyst is comprised of 1 wt% of iron (col. 3, lines 49-51).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 2 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Speronello et al. (US Patent 5,516,497) in view of Coq et al. (US Patent 6,221,324).

Applicant claims with respect to claims 7-9, wherein the gas circulates at voluminal velocities per hour from 1000 to 50,000 h^{-1} and the volume content of the gas.

The teachings of Speronello et al. have been discussed with respect to claims 1 and 3-6. Speronello et al. teaches wherein a zeolite promoted with either iron or copper may be used in treating nitrogen oxides. Speronello et al. also teaches wherein any suitable zeolite may be utilized in the process for reducing nitrogen oxides.

Furthermore, with respect to claim 2, it would have been obvious to one of ordinary skill in the art to achieve the desired ratio of nitrogen oxides, since Speronello et al. discloses wherein nitrogen oxides are present in the gas mixture from about 20 to 500 ppmv (col. 4, lines 59-61). However, Speronello et al. is silent with respect to the limitations of claims 7-9.

Coq et al. teaches a process for the removal of nitrogen oxides with a copper faujasite zeolite (see abstract). Coq et al. continues to disclose wherein the gas circulates at a VVH from 10,000 to 20,000 h^{-1} (col. 7, lines 5-10) and wherein the gas comes from nitric acid plants comprised of 1.5 to 3% of oxygen and 0.3 to 2.5% of water (col. 5, lines 22-30).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the teachings of Speronello et al., by reducing nitrogen oxides under process conditions, such as circulating a gas at a voluminal velocity per hour from 1000 to 50,000 h^{-1} and the volume content of the oxygen and water in the gas being between 1.5 and 5% and 0.5 and 5% respectively, because Coq et al. teaches a process for the reduction of nitrogen oxides wherein the gas circulates at a VVH from 10,000 to 20,000 h^{-1} and wherein the gas comes from nitric acid plants comprised of 1.5 to 3% of oxygen and 0.3 to 2.5% of water. It would have been obvious to combine the two references, since both references utilize zeolites, which are promoted by metals in order to reduce nitrogen oxides. Furthermore, Speronello et al. teaches wherein any suitable zeolite may be utilized in the process for reducing nitrogen oxides and wherein a zeolite may be promoted with either iron or copper.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent 5,520,895 ; US Patent 5,582,810; US Patent 5,670,125.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonas N. Strickland whose telephone number is 703-306-5692. The examiner can normally be reached on M-TH, 7:30-5:00, off 1st Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-


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872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-0661.


Jonas N. Strickland
August 18, 2003


STANLEY S. SILVERMAN
SUPERVISORY PATENT EXAMINER
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